

PATENT  
Atty. Dkt. No. ATT/2002-0457**REMARKS**

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are obvious under the provisions 35 U.S.C. § 103. Thus, the Applicants believe that all of these claims are now in allowable form.

**I. REJECTION OF CLAIMS 6-10 UNDER 35 U.S.C. § 103****A. Claims 6-7**

The Examiner rejected claims 6-7 as being unpatentable under 35 U.S.C. § 103 over U.S. Patent Publication 2004/0003004, published on January 1, 2004, hereinafter referred to as "Chaudhuri" in view of U.S. Patent Publication 2004/0111408, published on June 10, 2004, hereinafter referred to as "Caudill." The Applicants respectfully traverse the rejection.

Chaudhuri teaches time-bound database tuning. Chaudhuri teaches time-bound tuning in database system using a query language such as Structured Query Language (SQL). (See Chaudhuri, para. [0025]).

Caudill teaches a method and system of ranking and clustering for document indexing and retrieval. Caudill teaches a method that represents text in the form of numerical values. (See Caudill, para. [0009]). Queries are converted into ontology-based predicate structures and compared against documents which have been previously parsed for their ontology-based predicates to obtain the best possible matching documents. (See *Id.* at para. [0044]).

The Examiner's attention is directed to the fact that Chaudhuri and Caudill, alone or in any permissible combination, fail to teach or suggest a method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}$ , for a given n-dimensional vector of constants  $\bar{c}$ , as positively recited by the Applicants' independent claim 6. Specifically, independent claim 6 positively recites:

6. A method for providing a data management system, comprising:

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preprocessing a database having a relation to produce an index,  
wherein said preprocessing step comprises:

identifying a dominating vector of constants,  $\bar{c}'$  for a given n-dimensional vector of constants  $\bar{c}$ ;  
receiving a query having aggregation constraints;  
applying said index to look up a result in response to said query  
having aggregation constraints; and  
providing said result. (Emphasis added).

In one embodiment, the Applicants' invention teaches a method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}'$  for a given n-dimensional vector of constants  $\bar{c}$ . For example, the dominating vector of constants  $\bar{c}'$  may correspond to an OPAC query having the maximum profit. (See e.g., Applicants' specification, paragraphs [0059-0063], [0067]).

In contrast, Chaudhuri and Caudill, alone or in any permissible combination, fail to teach or suggest a method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}'$  for a given n-dimensional vector of constants  $\bar{c}$ , as positively recited by the Applicants' independent claim. Chaudhuri fails to teach this limitation. The Examiner concedes this in the Office Action. (See Office Action, p. 3, ll. 13-14). However, the Examiner then alleges that Caudill bridges the substantial gap left by Chaudhuri.

The Applicants respectfully submit that Caudill fails to bridge the substantial gap left by Chaudhuri because Caudill also fails to teach or suggest a method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}'$  for a given n-dimensional vector of constants  $\bar{c}$ , as positively recited by the Applicants' independent claim. The passages of Caudill cited by the Examiner only teaches that a single winning neurode represents the best match between the input signal and the currently organized network's set of weight vectors. (See Caudill, para. [0148]). Notably,

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nowhere in the passage cited by the Examiner does it teach or suggest identifying a dominating vector of constants,  $\bar{c}$ , for a given n-dimensional vector of constants  $\bar{c}$ . At best, Caudill only teaches identifying input vectors and weight vectors. (See *Id.*).

In addition, the Applicants respectfully submit that Chaudhuri and Caudill cannot be meaningfully combined because they teach mutually exclusive querying methods. For example, Chaudhuri teaches searching a database using a query language such as SQL. (See Chaudhuri, para. [0025]). In stark contrast, Caudill teaches searching for documents using ontology-based predicate structures. (See Caudill, para. [0044]). The Applicants respectfully submit that the use of vectors taught by Caudill cannot be combined with Chaudhuri's use of query languages such as SQL. Therefore, the combination of Chaudhuri and Caudill fail to teach or suggest the Applicants' invention.

Furthermore, dependent claim 7 depends from independent claim 6 and recites additional limitations. For the same reasons discussed above, dependent claim 7 is also not made obvious in view of Chaudhuri and Caudill and is allowable. As such, the Applicants respectfully request the rejection be withdrawn.

B. Claims 8-10

The Examiner rejected claims 8-10 in the Office Action under 35 U.S.C. §103 as being unpatentable over Chaudhuri in view of Caudill and in further view of U.S. Patent No. 6,122,628, issued on September 19, 2000, hereinafter referred to as "Castelli." The Applicants respectfully traverse the rejection.

The teachings of Chaudhuri and Caudill are discussed above. Castelli teaches multidimensional data clustering and dimension reduction for indexing and searching. (See Castelli, Abstract).

The Examiner's attention is directed to the fact that Chaudhuri, Caudill and Castelli, alone or in any permissible combination, fails to teach or suggest the novel method for providing a data management system comprising identifying a

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dominating vector of constants,  $\bar{c}$ ' for a given n-dimensional vector of constants  $\bar{c}$ , as positively claimed by the Applicants. (See *supra*).

The Applicants' invention teaches a method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}$ ' for a given n-dimensional vector of constants  $\bar{c}$ . In contrast, as discussed above, the combination of Chaudhuri and Caudill simply does not teach or suggest the novel method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}$ ' for a given n-dimensional vector of constants  $\bar{c}$ .

Moreover, the Castelli fails to bridge the substantial gap left by Chaudhuri and Caudill because Castelli also fails to teach or suggest a method for providing a data management system comprising identifying a dominating vector of constants,  $\bar{c}$ ' for a given n-dimensional vector of constants  $\bar{c}$ . Castelli only teaches multidimensional data clustering and dimension reduction for indexing and searching. (See Castelli, Abstract). Thus, for all of the above reasons, the Applicants respectfully contend that claim 6 of the present invention is not made obvious by the combination of Chaudhuri, Caudill and Castelli.

Furthermore, dependent claims 8-10 depend, either directly or indirectly, from claim 6 and recite additional limitations. As such, and for the exact same reason set forth above, the Applicants submit that claims 8-10 are also patentable and not made obvious by the teachings of Chaudhuri, Caudill and Castelli. As such, the Applicants respectfully request the rejection be withdrawn.

### **CONCLUSION**

Thus, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.


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If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

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